

Appl. No. 10/710,012
Reply to Office Action of March 22, 2006

Attorney Docket No. 2001-1531 / 24061.439
Customer No. 42717

REMARKS

Claims 2-29 are present in the application. In view of the remarks that follow, Applicants respectfully request reconsideration.

Allowable Subject Matter

Noted with appreciation is the indication in the Office Action that Claims 13-14 and 27-28 are allowed.

On pages 9-10 of the Office Action, the Examiner offers a statement of reasons why Claims 13-14 and 27-28 are considered to recite allowable subject matter. The stated reasons are the same reasons given in the last Office Action, and Applicants presented a comment on these reasons in the remarks of their last Response. Accordingly, it is believed to be unnecessary to repeat the comment here.

Independent Claim 6

Claim 6 stands rejected under 35 U.S.C. §102 as anticipated by Yeo U.S. Patent No. 6,492,216, and in particular the embodiment shown in Figures 1-5 and 7-8 of Yeo. This ground of rejection is respectfully traversed, for the following reasons. The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Applicants' Claim 6 includes a recitation of:

... forming a gate structure on the semiconductor alloy layer;
forming source and drain regions in the semiconductor
substrate on both sides of the gate structure;
removing at least a portion of the semiconductor alloy layer
overlying the source and drain regions; ...
wherein removing at least a portion of the semiconductor
alloy layer comprises:
altering at least a portion of the semiconductor alloy layer to
a material receptive to a selective removal process; and

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selectively removing the altered semiconductor alloy layer
from overlying the source and drain regions.

The §102 rejection of Claim 6 is explained on pages 2-3 of the Office Action. In the text running from line 17 on page 2 through line 2 on page 3, the Examiner asserts that the "altering" and "selectively removing" limitations in Applicants' Claim 6 are met by lines 50-54 in column 5 of Yeo, where Yeo discusses selective etching that removes exposed portions of a semiconductor alloy layer 2 made of silicon-germanium-carbon.

But although the indicated portion of Yeo talks about etching away material, it says absolutely nothing about altering material of the semiconductor alloy before the etching, and then etching away the altered material. What is etched away in the indicated part of Yeo is a non-altered part of Yeo's semiconductor alloy layer 2. Consequently, even assuming that the etching discussed in this portion of Yeo can be compared to the "selectively removing" limitation in Applicant's Claim 6, there is nothing in this portion of Yeo that could even remotely be considered to meet the "altering" limitation in Claim 6. Accordingly, since the indicated portion of Yeo does not contain anything that is even remotely comparable to the "altering" limitation in Claim 6, Yeo fails to disclose each and every element that is recited in Claim 6, and thus fails to anticipate Claim 6 under §102. Claim 6 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Internal Inconsistencies in the Office Action

It is appropriate to note that the Office Action contains internal inconsistencies. As one example, and as discussed above, independent Claim 6 includes recitations of "altering" and "selectively removing". As also discussed above, the Examiner asserts that these limitations in Claim 6 are met by lines 50-54 in column 5 of Yeo, where Yeo discusses selective etching that removes part of the semiconductor alloy layer 2. Claim 7 depends from Claim 6, and thus includes all of the limitations in Claim 6 by virtue of this dependency. Claim 7 also contains additional limitations that further define both the "altering" and "selectively removing" limitations in Claim 6. The explanation of the rejection of Claim 7 appears in lines 11-16 on

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page 3 of the Office Action. The Examiner starts with how Yeo was applied to Claim 6. Then, as to the additional limitations added by Claim 7, the Examiner cites Figure 4 of Yeo, lines 65-67 in column 3 of Yeo, and lines 41-62 in column 4 of Yeo. Next, the Examiner asserts that the silicon oxide layer 5 in Yeo is an "altered" portion of the semiconductor alloy layer 2, and corresponds to Applicants' recitation of material that is "selectively removed". However, this involves an inconsistency, in that (1) for purposes of the limitations common to Claims 6 and 7, the Examiner asserts that the selectively removed material is a non-altered portion of the semiconductor alloy layer, but (2) for purposes of the limitations appearing only in Claim 7, the Examiner asserts that the selectively removed material is part of the silicon oxide layer 5 (or in other words a different portion of the semiconductor alloy layer 2 that has been altered). Considering Claim 7 as a whole, it is not proper for the Office Action to assert (1) that some references in Claim 7 to selectively removed material read onto a non-altered portion of Yeo's semiconductor alloy layer 2, and (2) that other references in Claim 7 to this very same material read onto an entirely different structural part of Yeo.

Moreover, if it is assumed the selectively removed material is part of the silicon oxide layer 5 (as proposed by the Office Action in association with Claim 7), then additional problems arise. For example, when the common limitations of Claims 6 and 7 are read onto Yeo, the recitation of "forming a gate structure" necessarily and inherently includes the etching away of some portions of the silicon oxide layer 5. Consequently, it is not possible for the separate recitation of "selectively removing the altered semiconductor alloy layer" to also read onto exactly the same disclosure in Yeo (i.e. etching away portions of the silicon oxide layer 5). That is, these two different limitations within the same claim cannot both be properly anticipated by a single etching operation in Yeo. Instead, Yeo would need two separate operations to respectively anticipate each of these two different limitations in Claim 6 (and also Claim 7).

Independent Claim 17

Claim 17 stands rejected under 35 U.S.C. §102 as anticipated by the Yeo patent. This ground of rejection is respectfully traversed, for the following reasons. As noted above, the PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the

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reference must teach each and every element recited in the claim. Applicant's Claim 17 includes a recitation of:

. . . altering at least a portion of the semiconductor alloy
layer overlying the source and drain regions; and
removing, at least partially, the altered semiconductor alloy
layer overlying the source and drain regions.

The explanation of the rejection of Claim 17 appears at lines 7-13 on page 4 of the Office Action. In regard to the limitations from Claim 17 that are quoted above, the Office Action asserts that these limitations are fully met by lines 44-54 in column 5 of Yeo. But although the indicated portion of Yeo talks about etching away a semiconductor alloy material, it says absolutely nothing about altering the semiconductor alloy before the etching, and then etching away the altered material. Consequently, even assuming that the etching discussed in this portion of Yeo can be compared to the removing limitation in Applicant's Claim 17, there is nothing in this portion of Yeo that could even remotely be considered to meet the altering limitation in Claim 17. Accordingly, since the indicated portion of Yeo does not contain anything that is even remotely comparable to the "altering" limitation in Applicant's Claim 17, Yeo fails to disclose each and every element that is recited in Claim 17, and Claim 17 is thus not anticipated under §102 by Yeo. Claim 17 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2-5, 7-12 and 15-16 each depend directly or indirectly from independent Claim 6, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 6. Claims 18-26 and 29 each depend directly or indirectly from independent Claim 17, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 17.

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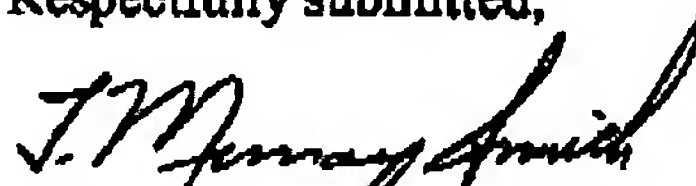
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Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicants believe that no fee is due in association with the filing of this paper, the Commissioner is hereby authorized to charge any fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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Enclosures: None

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